

CLAIMS

I claim:

1. An intrusion detection and remote alarm communication system comprising:
an intrusion detecting sensor, said sensor being capable of detecting the entry of an intruder into a space, said sensor connected to a transmitter, said sensor sending a predetermined signal to said transmitter when an intruder is detected,
a transmitter, said transmitter transmitting a signal to a receiver, said signal having a first mode and a second mode, said first mode being an encrypted stream of information following a prearranged pattern, said first mode indicating a normal secure condition, said second mode indicating that said sensor has sent said predetermined signal to said transmitter that an intruder has been detected, said second mode being the alarm mode,
a receiver, said receiver having means for receiving said signal from said transmitter, said receiver having means for de-encrypting said signal and recognizing said prearranged pattern to be correct and responding by indicating a normal secure condition, said receiver recognizing that said information pattern is incorrect and responding by indicating an alarm condition, said receiver recognizing an interruption in said encrypted stream of information and responding by indicating an alarm condition, said receiver recognizing said second mode and responding by indicating an alarm condition.
2. An intrusion detection and remote alarm communication system, according to claim 1, further comprising a video camera, located in said space, connected to said transmitter and responding to signals from said transmitter, said video camera transmitting video images to said transmitter, said video images being stored in said transmitter and said video images being transmitted by said transmitter to said receiver.
3. An intrusion detection and remote alarm communication system, according to claim 1, further comprising a countermeasure device, located in said space, connected to said transmitter and responding to signals from said transmitter, said signals from said transmitter causing the countermeasure device to release materials to impede the progress of intruders entering said space.
4. An intrusion detection and remote alarm communication system, according to claim 1, further comprising a container, enclosing said space, said container enclosing said sensor and said transmitter.
5. An intrusion detection and remote alarm communication system, according to claim 1, further comprising a redundant sensor, thereby providing confirmation of an intrusion into said space.

6. An intrusion detection and remote alarm communication system, according to claim 1, wherein said receiver transmits an electromagnetic broadcast alarm signal when indicating an alarm condition.

7. An intrusion detection and remote alarm communication system, according to claim 1, wherein said receiver is capable of receiving input signals from multiple transmitters and responding by providing multiple output displays.

8. An intrusion detection and remote alarm communication system, according to claim 1, wherein said receiver will always indicate an alarm condition whenever said correct encrypted data stream is not received and said receiver will always indicate an alarm condition whenever an alarm signal is received.

9. An intrusion detection and remote alarm communication system, according to claim 1, wherein said transmission by said transmitter is by airborne electromagnetic broadcast.

10. An intrusion detection and remote alarm communication system, according to claim 1, wherein said transmission by said transmitter is carried on a landline.

11. An intrusion detection and remote alarm communication system, according to claim 1, further comprising:

- a backup power supply unit supplying power to said transmitter when external power is interrupted, said transmitter recognizing when external power is interrupted and transmitting a predetermined signal to said receiver,
- a backup power supply supplying power to said receiver when external power is interrupted, said receiver recognizing when external power is interrupted and broadcasting a predetermined signal.

12. An intrusion detection and remote alarm communication system, according to claim 1, further comprising a second receiver at a third location, said second receiver monitoring said transmitter signals, said second receiver recognizing an interruption in said encrypted stream of information and responding by indicating an alarm condition, said second receiver recognizing said second mode and responding by indicating an alarm condition.

13. An intrusion detection and remote alarm communication system, according to claim 12, wherein said first receiver broadcasts a predetermined alarm signal when said alarm signal is received from said transmitter, said second receiver receives said predetermined alarm signal from said first receiver and indicates an alarm condition.

14. An intrusion detection and remote alarm communication system comprising:
an intrusion detecting sensor, said sensor being capable of detecting the entry of an intruder into a space, said sensor connected to a transmitter, said sensor sending a predetermined alarm signal to said transmitter when an intruder is detected,
a transmitter, said transmitter transmitting a signal to a receiver, said signal having a first mode and a second mode, said first mode being an encrypted stream of information following a prearranged pattern, said first mode indicating a normal secure condition and the absence of said predetermined alarm signal sent by said sensor, said second mode indicting that said sensor has sent a predetermined alarm signal to said transmitter that an intruder has been detected, said second mode being the alarm mode.
15. An intrusion detection and remote alarm communication system, according to claim 14, further comprising a video camera, located in said space, connected to said transmitter and responding to signals from said transmitter, said video camera transmitting video images to said transmitter, and said video images being transmitted by said transmitter to said receiver.
16. An intrusion detection and remote alarm communication system, according to claim 14, further comprising a countermeasure device, connected to said transmitter and responding to signals from said transmitter, said signals from said transmitter causing the countermeasure device to release materials to impede the progress of intruders entering said space.
17. An intrusion detection and remote alarm communication system, according to claim 14, further comprising a container, said container surrounding and enclosing said space, said container enclosing said sensor and said transmitter.
18. An intrusion detection and remote alarm communication system, according to claim 14, further comprising a plurality of sensors, a first sensor being within the field of view of a second sensor, whereby any intruder attempting to tamper with said first sensor is detected by said second sensor.
19. An intrusion detection and remote alarm communication system, according to claim 14, further comprising means for said transmitter to determine that said sensor is functional.
20. A remote alarm communication system comprising a receiver, said receiver having means for receiving a signal, said signal having a first mode and a second mode, said first mode being an encrypted stream of information following a prearranged pattern, said first mode indicating a normal secure condition at a storage space, said second mode indicting that a sensor has detected an intruder in said storage space, said second mode being the alarm mode, said receiver having means for recognizing said first mode with

said prearranged pattern and providing an indication of a normal condition, said recognizing means recognizing that the received pattern is incorrect and providing an indication of an alarm condition, said recognizing means recognizing an interruption in said encrypted stream of information and providing an indication of an alarm condition, said recognizing means recognizing said second mode and providing an indication of an alarm condition.

21. A remote alarm communication system, according to claim 20, wherein said receiver is capable of receiving a multiplicity of said signals and responding by providing multiple output displays.

22. A remote alarm communication system, according to claim 20, further comprising means for indicating an alarm condition at said receiver if external power to said receiver is interrupted.

23. A method for establishing and maintaining a secure communication link for transmitting an alarm signal, comprising the steps of:

- encrypting a prearranged sequence of characters,
- transmitting said encrypted prearranged sequence from a first location ,
- receiving said encrypted prearranged sequence at a second location,
- deencrypting said encrypted prearranged sequence,
- comparing deencrypted sequence received with said prearranged sequence,
- initiating an observable alarm signal if said received sequence does not match said prearranged sequence,
- initiating an observable alarm signal if said transmission of said sequence is interrupted.

24. A method for establishing and maintaining a secure communication link for transmitting an alarm signal, according to claim 23, further comprising the steps of:

- sensing an intrusion into a space at said first location,
- interrupting said transmission of encrypted prearranged sequence to transmit an alarm signal from said first location,
- transmitting an alarm signal from said first location,
- receiving said alarm signal at said second location,
- initiating an observable alarm signal at said second location.

25. A method for establishing and maintaining a secure communication link for transmitting an alarm signal, according to claim 23, wherein said prearranged sequence is taken from a stored list of characters.

26. A method for establishing and maintaining a secure communication link for transmitting an alarm signal, according to claim 23, wherein said prearranged sequence is generated by a calculation based on a mathematical formula.

27. A method for establishing and maintaining a secure communication link for transmitting an alarm signal, according to claim 24, further comprising the steps of:

receiving said alarm signal from said first location at a third location,
initiating an observable alarm signal at said third location.

28. A method for establishing and maintaining a secure communication link for transmitting an alarm signal, according to claim 24, further comprising the steps of:

broadcasting an alarm signal from said second location,
receiving said alarm signal from said second location at a third location,
initiating an observable alarm signal at said third location.

29. A method of establishing and maintaining a secure communication link for transmitting and alarm signal, comprising the steps of:

determining a first character set at a second location,
encrypting said first character set at said second location,
transmitting said encrypted first character set from said second location,
receiving said encrypted first character set at a first location,
deencrypting encrypted first character set to reveal first character set at said first location,
transforming said first character set to a second character set at said first location using a
transformation process known at said second location,
encrypting said second character set at said first location,
transmitting said encrypted second character set as a reply message from said first location,
receiving said reply message at said second location,
deencrypting said reply message at said second location to yield a third character set,
transforming said first character set at said second location, using the same said transformation
process used at said first location, to yield a fourth character set,
comparing said third character set to said fourth character set at said second location,
providing a display indicating said communication link is secure if said third character set is the same
as said fourth character set at said second location,
providing a display indicating said communication link is not secure if said third character set is not
the same as said fourth character set at said second location.

30. A method for establishing and maintaining a secure communication link for transmitting an alarm signal, according to claim 29, further comprising the steps of:

providing a display indication that said communication link is not secure if there is an unusual delay in receiving said reply message.

31. A method for establishing and maintaining a secure communication link for transmitting an alarm signal, according to claim 29, further comprising the steps of:

interrupting said reply message to transmit an alarm message,
transmitting an alarm message from said first location,
receiving said alarm message from said first location at said second location,
providing a display indication of the alarm condition at said second location.

32. A method for establishing and maintaining a secure communication link for transmitting an alarm signal, according to claim 31, further comprising the steps of:

broadcasting a message that the communication link is not secure from said second location if the communication link is not secure,
broadcasting an alarm message from said second location if an alarm message is received from said first location,
receiving said alarm message from said first location at a third location and displaying an indication of an alarm condition,
receiving said broadcast message that the communication link is not secure from said second location at a third location and displaying an indication that the communication link is not secure,
receiving said alarm message from said second location at said third location and displaying an alarm message.

33. A method of establishing and maintaining a secure communication link for transmitting and alarm signal, comprising the steps of:

determining an original character set at a second location,
encrypting said original character set at said second location using a first set of encryption values to produce a first message,
transmitting said first message from said second location,
receiving said first message at a first location,
deencrypting first message using said first set of encryption values to reveal said original character set at said first location,
encrypting said original character set at said first location using a second set of encryption values to produce a reply message,
transmitting said reply message from said first location,

receiving said reply message at said second location,
deencrypting said reply message at said second location using said second set of encryption values to
yield a reply character set,
comparing said reply character set to said original character set at said second location,
providing a display at said second location indicating a secure communication link if said reply
character set is the same as said original character set,
providing a display at said second location indicating that communication link is not secure if said
reply character set is not the same as said original character set.

34. A method for establishing and maintaining a secure communication link for transmitting an alarm signal, according to claim 33, further comprising the steps of:
providing a display indication that said communication link is not secure if there is an unusual delay
in receiving said reply message.

35. A method for establishing and maintaining a secure communication link for transmitting an alarm signal, according to claim 33, further comprising the steps of:
interrupting said reply message to transmit an alarm message,
transmitting an alarm message from said first location,
receiving said alarm message from said first location at said second location,
providing a display indication of the alarm condition at said second location.

36. A method for establishing and maintaining a secure communication link for transmitting an alarm signal, according to claim 35, further comprising the steps of:
broadcasting a message that the communication link is not secure from said second location if the
communication link is not secure,
broadcasting an alarm message from said second location if an alarm message is received from said
first location,
receiving said alarm message from said first location at a third location and displaying an indication
of an alarm condition,
receiving said broadcast message that the communication link is not secure from said second location
at a third location and displaying an indication that the communication link is not secure,
receiving said alarm message from said second location at said third location and displaying an alarm
message.